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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,218	03/30/2004	Ravi R. Vedula	203ES007A	3866
37535	7590	07/20/2006	EXAMINER	
NOVEON IP HOLDINGS CORP. 9911 BRECKSVILLE ROAD CLEVELAND, OH 44141-3247			ZIMMER, MARC S	
			ART UNIT	PAPER NUMBER
			1712	

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/813,218	Applicant(s) VEDULA ET AL.	
	Examiner Marc S. Zimmer	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 19-22, 26-38 and 41-44 is/are rejected.
- 7) ☒ Claim(s) 12-18, 23-25, 39, 40 and 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 22, and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsutsumi et al., EP 972864 A1. They disclose the preparation or polyurethane elastomer and, in turn, the manufacture of an yarn using the same. According to paragraph 19, the elastomer is prepared by reacting together two urethane prepolymers, the first being hydroxyl group-terminated and the second isocyanate group-terminated. Both prepolymers are synthesized using a mixture of a polymer polyol, a low molecular weight diol, and a diisocyanate (paragraph 20). Favored polymer polyols, low molecular weight polyols, and diisocyanates are described in paragraph 35 and 39. The hydroxyl group-terminated prepolymer, or base polymer, and isocyanate-terminated prepolymer, or crosslinking agent, do not necessarily have to be prepared using the same combinations of polymer polyol, diisocyanate, and low molecular weight polyol. In fact, relevant to the claimed invention, it is preferred that a polyether polyol be employed in the preparation of the hydroxyl group-terminated prepolymer and a polyester polyol in the production of the isocyanate group-terminated crosslinking agent according to paragraph 38. Paragraph 36 states that the molecular weight of the polymer polyol shall be between 600 and 3,000 in most cases.

As an aside, it is appreciated that a polymer polyol and polyisocyanate are the only materials expressly identified as being used in the preparation of the crosslinking agent whereas the reference also mentions a low molecular weight polyol. It is true, nonetheless, that the reference discloses a crosslinking agent derived from polymer polyol and polyisocyanate. That is to say, it is the Examiner's opinion that Applicant's language does not exclude the incorporation of structural attributes derived from other monomers. Rather, it merely states that the crosslinking agent is derived *at least* from a polymer polyol and a polyisocyanate.

Concerning claims 19-21 and 35, the reference does not disclose the weight average molecular weight of the isocyanate-terminated prepolymer. Instead, they report a viscosity associated with this component of between 500 and 10,000 cp. It appears that the claimed molecular weight is inherent in the prior art crosslinking agents in view of the viscosity ranges recited.

As for claims 26-28, the realization of yarns having a size in the specified ranges is reported in the Examples.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-21, 29-35, 36-38, and 41-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsumi et al., EP 972 864.

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The only step not expressly or implicitly disclosed by claim 29 is the winding step (f) but the Examiner takes notice of the fact that this aspect is known and widely practiced in the melt-spun fiber industry as are the winding speeds outlined in claims 41 and 42 as are the mixing apparatus described in claims 31-33 (the Examples don't delineate precisely what sort of mixing apparatus is being used).

Concerning claims 19-21 and 35, "where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (ie. does not require undue experimentation)." *In re Aller*, 105 USPQ 233. In optimizing the viscosity of the prepolymer bearing isocyanate endgroups within the range reported in paragraph 48, one of ordinary skill would arrive at a polymer having a molecular weight coinciding with those disclosed in claims 19-21 and 35.

The remaining claims mirror in scope the claims held as being anticipated above.

Allowable Subject Matter

Claims 12-18, 23-25, and 39-40, and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As for claims 12-14 and 39-40, though it might have even been said that it is obvious that more than one type of glycol could be used in the construction of the polymer polyol, the Examiner is unclear as to why one would have been motivated to use combinations of branched and linear polyols.

As for claims 23-25 and 45, the weight contribution of the prepolymer corresponding to the crosslinking agent of the claims is actually significantly higher than is that for the prepolymer corresponding to the product of (a), (b), and (c).

JP 1-167389 is cited as being of interest for their disclosure of what appears to be mixtures of urethane prepolymers similar to that contemplated in Applicant's claims. The Examiner has requested a written translation of this document and will later determine the patentability of the claims over this document. JP 57-112409 is of interest for their disclosure of a polyurethane elastomer forming composition that differs from Applicant's only in that both the base polymer and crosslinking agent are derived from a polyether polyol whereas Applicant requires that the latter be synthesized using a polyester-, polylactone-, or polycarbonate polyol.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 26, 2006



MARC S. ZIMMER
PRIMARY EXAMINER